

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Sorrells et al.

Appl. No. 09/525,185

Filed: March 14, 2000

For:

**Spread Spectrum Applications of** 

**Universal Frequency Translation** 

Art Unit: 2634

Examiner: Dac V. Ha

Atty. Docket: 1744.0450002

## Information Disclosure Statement RECEIVED

APR 2 2 2002

Commissioner for Patents Washington, D.C. 20231

Technology Center 2600

Sir:

Listed on accompanying Form PTO-1449 are documents that may be considered material to the examination of this application, in compliance with the duty of disclosure requirements of 37 C.F.R. §§ 1.56, 1.97 and 1.98.

In addition to providing hard copies of the documents as required by applicable rules, Applicants herewith provide two Compact Discs labeled "Sterne1B" and "Sterne2B" having stored thereon searchable electronic copies (in PDF format) of the documents listed on the PTO-1449. More specifically, the "Sterne1B" CD contains electronic copies of documents AA1-AR1, AA2-AR2, AA3-AR3, AA4-AR4, AA5-AR5, AA6-AR6, AA7-AR7, AA8-AR8, AA9-AR9, AA10-AR10, AA11-AR11, AA12-AR12, AA13-AL13, AN13-AR13, AA14-AI14, AN14-AR14, AA15-AI15, AN15-AR15, AA16-AI16, AN16-AR16, AA17-AI17, AN17-AR17, AA18-AI18, AN18-AR18, AA19-AI19, AN19-AR19, AA20-AI20, AN20-AR20, AA21-AI21, AN21-AR21, AA22-AI22, AN22-AR22, AA23-AI23, AN23-AR23, AA24-AI24, AN24-AR24, AA25-AI25, AN25-AR25, AA26-AI26, AN26-AR26, AA27-AI27, AN27-AR27, AA28-AI28, AN28-AR28, AA29-AI29, AN29-AR29, AA30-AI30, AN30-AR30, AA31-AI31, AN31-AR31, AA32-AI32, AN32-AR32, AA33-AI33, AN33-AR33, AA34-AI34, AN34-AR34, AA35-AI35, AN35-AR35, AA36-AI36, AN36-AR36, AA37-AI37, AN37-AR37, AA38-AI38, AN38-AR38, AA39-AI39 and AN39-AR39, and the "Sterne2B" CD contains electronic copies of documents AA40-AI40, AA41-AI41, AA42-AI42, AA43-AI43, AA44-AI44, AA45-AI45, AA46-AB46, AM10, AJ11-AM11, AJ12-AM12, AJ13-AL13, AP50-AR50 and AN51-AP51. Documents AC46-AI46, AA47-AI47, AA48-AE48, AM13, AJ14-AM14, AJ15-AM15, AJ15-AM15, AJ16-AM16, AJ17-AM17, AJ18-AL18, AQ51, AR51, AN52-AR52, AN53-AR53, AN54-AR54, AN55-AR55 and AN56 have not yet been scanned. The file names on the CDs correspond to the identifiers on the PTO-1449. It is noted that the CDs are being provided in addition to hard copies of the documents, for the convenience of the Examiner.

Applicants have listed publication dates on the attached PTO-1449 based on information presently available to the undersigned. However, the listed publication dates should not be construed as an admission that the information was actually published on the date indicated.

Applicants reserve the right to establish the patentability of the claimed invention over any of the information provided herewith, and/or to prove that this information may not be prior art, and/or to prove that this information may not be enabling for the teachings purportedly offered.

Applicants provide the following comments regarding the documents:

Documents AD1, AL1, AO1, AC2, AF2, AG2, AI2, AC5, AG5, AB6, AF7, AI7, AB8, AF8, AG9, AK9, AO9, AO11, AA12, AE14, AN14, AB15, AE15, AH15, AO15, AF16, AD18, AG18, AB20, AC20, AQ20, AA22, AH22, AI23, AC24, AF26, AC30,

AH31, AC32, AA33, AR33, AH34, AP35 and AO48 were included with Petitions to Make Special pleadings in co-owned related U.S. Patent Nos. 6,061,551, 6,061,555, 6,049,706 and 6,091,940.

Documents AM4, AH6, AL7, AJ9, AM9, AC17, AA20, AG20, AG21, AA24, AD24, AG24, AI31, AA32, AG34, AD36 and AQ37 were cited in searches performed at Applicants' request by the European Patent Office's Searching Authority in the above-referenced co-owned related patents.

Documents AA6, AD6, AO6, AE7, AE8, AA11, AE11, AH11, AI12, AB13, AD13, AH13, AC14, AG14, AE16, AB17, AF19, AD20, AN21, AG23, AH27, AI27, AI28, AH29, AG30, AD37, AR40, AO49 and AQ49 were suggested or identified by potential licensees.

Documents AH5, AH17, AD21, AB34, AE34, AB36, AI36 and AI38 were cited by the Examiner in the above-referenced co-owned related patents.

Documents AR21, AN22-AR22, AN23-23, AN24-AR24, AN25-AR25, AN26-AR26, AN27-AR27, AN28-AR28, AN29-AR29, AN30-AR30, AN31-AR31, AN32-AR32 and AN33-AP33 are press releases issued by assignee ParkerVision, Inc.

Documents AP6-AR6 and AN7-AP7 are copies of Declarations (including Exhibits) made by Messrs. Bultman, Cook, Holtz, Looke, Moses, Parker, and Sorrells, filed in the above-referenced co-owned related patents.

Documents AJ1, AL9, AJ10, AA19, AC25, AB30 and AF32 were cited in search reports in the corresponding foreign applications of the above-referenced co-owned related patents.

Documents AK9, AC17, AD36 and AD40 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/21359, filed August 4, 2000, entitled "Wireless Local Area Network (WLAN) Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AM10, AJ11, AK11 and AE40 were listed in a communication issued by the International Preliminary Examination Authority in PCT application serial number PCT/US00/01108, filed January 19, 2000, entitled "Frequency Translation and Embodiments Thereof Such as the Family Radio Service," directed to related subject matter.

Documents AI7, AJ9, AK9, AG20, AG21, AB30 and AI43 were listed in a written opinion issued by the International Preliminary Examination Authority in PCT application serial number PCT/US00/23923, filed October 18, 1999, entitled "Applications of Frequency Translation," directed to related subject matter.

Documents AA44, AL11, AM11 and AQ50 were listed in a communication issued by the International Searching Authority in PCT application serial number PCT/US00/09911, filed April 14, 2000, entitled "Method And System For Down-converting an Electromagnetic Signal, And Transforms For Same," directed to related subject matter.

Documents AB44 and AC44 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,342, filed April 16, 1999, entitled "Method and System for Down-Converting Electromagnetic Signals Including Resonant Structures for Enhanced Energy Transfer", directed to related subject matter.

Documents AD44-AI44 and AA45-AD45 were cited by an Examiner in copending U.S. Patent Application Serial No. 09/261,129, filed March 3, 1999, entitled "Applications of Universal Frequency Translation", directed to related subject matter.

Documents AE45, AF45, AJ12 and AK12 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/27555, filed October 6, 2000, entitled "DC Offset, Re-radiation, and I/Q Solutions Using Universal Frequency Translation Technology," directed to related subject matter.

Documents AG45, AH45, AL12 and AM12 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/34771, filed January 21, 2000, entitled "Phase Comparator Using Undersampling," directed to related subject matter.

Documents AI45, AJ13-AL13 and AB46 were listed in a search report issued by the International Searching Authority in PCT application serial number PCT/US00/27281, filed October 4, 2000, entitled "Frequency Converter and Method," directed to related subject matter.

Document AA46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,580, filed April 16, 1999, entitled "Method and System for Frequency Up-Conversion with a Variety of Transmitted Configurations", directed to related subject matter.

Document AC46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/670,831, filed September 28, 2000, entitled "Universal Frequency

Translation, Embodiments Thereof, and a Web Site and Web Pages Directed to Same", directed to related subject matter.

Document AD46 was cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/293,095, filed April 16, 1999, entitled "Method and System for Down-Converting an Electromagnetic Signal Having Optimized Switch Structures", directed to related subject matter.

Documents AD35, AE46-AI46 and AA47 were cited by an Examiner in copending U.S. Patent Application Serial No. 09/293,342, filed April 16, 1999, entitled "Method and System for Down-Converting Electromagnetic Signals Including Resonant Structures for Enhanced Energy Transfer," directed to related subject matter.

Documents AJ1, AK9-AM9, AG28, AB30, AA32, AN52 and AP55 were cited in an Examination Report in co-pending European Patent Application Serial No. 99954905.8, filed October 18, 1999, entitled "Integrated Frequency Translation and Selectivity with a Variety of Filter Embodiments," directed to related subject matter.

Documents AM13, AJ14, AK14 and AQ51 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,765, filed June 21, 2000, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter.

Documents AL14, AM14, AJ15 and AK15 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,761, filed June 20, 2000, entitled "Method and System for Frequency Up-conversion," directed to related subject matter.

Documents AL15, AM15, AJ16-AM16 and AJ17-AM17 were cited in an Examination Report in co-pending Japanese Patent Application No. 2000-577,764, filed June 21, 2000, entitled "Applications of Frequency Translation," directed to related subject matter.

Documents AJ18-AL18, AB47, AC47, AE47-AG47 and AB48 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/489,675, filed January 24, 2000, entitled "Bar Code Scanner Using Universal Frequency Translation Technology for Up-Conversion and Down-Conversion," directed to related subject matter.

Documents AC24, AD47 and AA48 were cited by an Examiner in co-pending U.S. Patent Application Serial No. 09/376,509, filed August 18, 1999, entitled "Method and System for Ensuring Reception of a Communications Signal," directed to related subject matter.

Documents AH47, AI47 and AA48-AE48 are co-owned patents which are directed to related subject matter.

Document AF48 is a copy of co-pending U.S. Patent Application Serial No. 09/525,615, filed March 14, 2000, entitled "Method, System and Apparatus for Balanced Frequency Up-Conversion of a Baseband Signal and 4-Phase Receiver and Transceiver Embodiments," directed to related subject matter. In the copy provided, the claims are shown as amended on June 6, 2001.

It is noted that some of these documents could be classified in more than one of the above categories.

The other documents in the PTO-1449 do not fall within the above categories.

This statement should not be construed as a representation that information more material to the examination of the present patent application does not exist. The Examiner is specifically requested not to rely solely on the material submitted herewith.

Applicants have checked the appropriate boxes below.

- 1. This Information Disclosure Statement is being filed before the mailing of a first action on the merits. No statement or fee is required.
- □ 2. This Information Disclosure Statement is being filed more than three months after the U.S. filing date AND after the mailing date of the first Office Action on the merits, but before the mailing date of a Final Rejection or Notice of Allowance.
  - □ a. I hereby state that each item of information contained in this Information

    Disclosure Statement was cited in a communication from a

    foreign patent office in a counterpart foreign application not more
    than three months prior to the filing of this Information Disclosure

    Statement. 37 C.F.R. § 1.97(e)(1).
  - □ b. I hereby state that no item of information in this Information Disclosure

    Statement was cited in a communication from a foreign patent
    office in a counterpart foreign application and, to my knowledge
    after making reasonable inquiry, was known to any individual
    designated in 37 C.F.R. § 1.56(c) more than three months prior to
    the filing of this Information Disclosure Statement. 37 C.F.R.
    § 1.97(e)(2).
  - □ c. Attached is our Check No. 32067 in the amount of \$\_\_\_\_\_ in payment of the fee under 37 C.F.R. § 1.17(p).
- □ 3. This Information Disclosure Statement is being filed more than three months after the U.S. filing date and after the mailing date of a Final Rejection or Notice of Allowance, but before payment of the Issue Fee. A separate Petition to the Group Director, requesting consideration of this Information Disclosure Statement, is concurrently submitted herewith,

along with our Check No.	_ in the amount of \$	_in payment
of the fee under 37 C.F.R. § 1.17(i	).	

- □ a. I hereby state that each item of information contained in this Information

  Disclosure Statement was cited in a communication from a

  foreign patent office in a counterpart foreign application not more
  than three months prior to the filing of this Information Disclosure

  Statement. 37 C.F.R. § 1.97(e)(1).
- □ b. I hereby state that no item of information in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to my knowledge after making reasonable inquiry, was known to any individual designated in 37 C.F.R. § 1.56(c) more than three months prior to the filing of this Information Disclosure Statement. 37 C.F.R. § 1.97(e)(2).
- □ 4. The document(s) was/were cited in a search report by a foreign patent office in a counterpart foreign application. Submission of an English language version of the search report that indicates the degree of relevance found by the foreign office is provided in satisfaction of the requirement for a concise explanation of relevance. 1138 OG 37, 38.
- Solution Series Science Scien
  - Document AJ1 (DE 42 37 692 C1) appears to be a receiver for a digital radio signal. The corresponding U.S. Patent No. 5,493,721 is enclosed as document AG28 on the attached PTO-1449.
  - Document AK1 (EP 0 035 166 A1) appears to describe a digitized receiver. A copy of the English language abstract of document AK1 is enclosed as document AQ8 on the attached PTO-1449.
  - Document AJ6 (EP 0 785 635 A1) appears to describe a method and apparatus for frequency diversity transmission using a plurality of uncorrelated

- carriers. A copy of the English language abstract of document AJ6 is enclosed as document AP8 on the attached PTO-1449.
- Document AK7 (FR 2 743 231 A1) is the corresponding French application of document AJ6 (EP 0 785 635 A1), which is described above.
- Document AJ8 (JP 2-39632) appears to describe a transmitter for frequency diversity. A copy of the English language abstract of document AJ8 is enclosed as document AO8 on the attached PTO-1449.
- Document AK8 (JP 2-131629) appears to describe a transmitter-receiver for frequency diversity. A copy of the English language abstract of document AK8 is enclosed as document AN8 on the attached PTO-1449.
- Document AL8 (JP 2-276351) appears to describe an FSK demodulating circuit.

  A copy of the English language abstract of document AL8 is enclosed as document AR7 on the attached PTO-1449.
- Document AK11 (FR 2245130) appears to describe a converter. A partial English language translation of document AK11 is enclosed as document AP50 on the attached PTO-1449.
- Document AL11 (DE 3541031) appears to describe a method and device for demodulating high-frequency modulated signals. An English translation of document AL11 is enclosed as document AR50 on the attached PTO-1449.
- Document AM11 (EP 0 732 803) appears to describe a procedure and device for demodulation by sampling. An English translation of document AM11 is enclosed as document AN51 on the attached PTO-1449.
- Document AJ12 (DE 19735798) appears to describe a transceiver. An English translation of document AJ12 is enclosed as document AP51 on the attached PTO-1449.
- Document AM13 (JP 56-114451) appears to describe a system for diversity radio transmission. The corresponding U.S. Patent No. 4,363,132 is enclosed as document AF8 on the attached PTO-1449.

- Document AJ14 (JP 8-32556) appears to describe a data transmitter-receiver. A copy of the English language abstract of document AJ14 is enclosed as document AO52 on the attached PTO-1449.
- Document AK14 (JP 8-139524) appears to describe a frequency converting circuit and radio communication device. A copy of the English language abstract of document AK14 is enclosed as document AP52 on the attached PTO-1449.
- Document AL14 (JP 59-144249) appears to describe a pulse signal transmission system. A copy of the English language abstract of document AL14 is enclosed as document AQ52 on the attached PTO-1449.
- Document AM14 (JP 63-54002) appears to describe a microwave burst signal generator which incorporates a FET frequency multiplier. A copy of the English language abstract of document AM14 is enclosed as document AR52 on the attached PTO-1449.
- Document AJ15 (JP 6-237276) appears to describe a quadrature modulator. A copy of the English language abstract of document AJ15 is enclosed as document AN53 on the attached PTO-1449.
- Document AK15 (JP 8-23359) appears to describe a digital quadrature modulation device. A copy of the English language abstract of document AK15 is enclosed as document AO53 on the attached PTO-1449.
- Document AL15 (JP 47-2314) appears to describe a demodulator. A partial English language translation of document AL15 is enclosed as document AP53 on the attached PTO-1449.
- Document AM15 (JP 58-7903) appears to describe a switched capacitor modulator. A partial English language translation of document AM15 is enclosed as document AQ53 on the attached PTO-1449.
- Document AJ16 (JP 58-133004) appears to describe an amplitude detector. A copy of the English language abstract of document AJ16 is enclosed as document AR53 on the attached PTO-1449.

- Document AK16 (JP 60-58705) appears to describe a frequency converting circuit. A copy of the English language abstract of document AK16 is enclosed as document AN54 on the attached PTO-1449.
- Document AL16 (JP 4-123614) appears to describe a level converting circuit. A copy of the English language abstract of document AL16 is enclosed as document AO54 on the attached PTO-1449.
- Document AM16 (JP 4-127601) appears to describe a frequency conversion circuit. A copy of the English language abstract of document AM16 is enclosed as document AP54 on the attached PTO-1449.
- Document AJ17 (JP 5-175730) appears to describe a time division direct receiver. A copy of the English language abstract of document AJ17 is enclosed as document AQ54 on the attached PTO-1449.
- Document AK17 (JP 5-175734) appears to describe an FM demodulator. A copy of the English language abstract of document AK17 is enclosed as document AR54 on the attached PTO-1449.
- Document AL17 (JP 7-154344) appears to describe a receiver for receiving modulated carrier signals and an IQ mixer/demodulator using it's receiving constitution. A copy of the English language abstract of document AL17 is enclosed as document AN55 on the attached PTO-1449.
- Document AM17 (JP 7-307620) appears to describe a bottom detection circuit.

  A copy of the English language abstract of document AM17 is enclosed as document AO55 on the attached PTO-1449.
- Document AJ18 (JP 55-66057) appears to describe a bar-code detection circuit.

  A copy of the English language abstract of document AJ18 is enclosed as document AQ55 on the attached PTO-1449.
- Document AK18 (JP 63-65587) appears to describe a wireless light pen device.

  A copy of the English language abstract of document AK18 is enclosed as document AR55 on the attached PTO-1449.
- Document AL18 (JP 63-153691) appears to describe a data transfer for a semiconductor data carrier system. A copy of the English language

abstract of document AL18 is enclosed as document AN56 on the attached PTO-1449.

- Document AQ50 (Fest et al.) appears to discuss analog-digital converters. An English translation of document AQ50 is enclosed as document AO51 on the attached PTO-1449.
- Document AQ51 (Miki et al.) appears to describe modulation systems. A partial English-language translation of document AQ51 is enclosed as document AR51 on the attached PTO-1449.
- **□** 6. Copies of the documents were cited by or submitted to the Office in an IDS that complies with 37 C.F.R. § 1.98(a)-(c) in Application No. \_\_\_\_\_\_, filed \_\_\_\_\_, which is relied upon for an earlier filing date under 35 U.S.C. § 120. Thus, copies of these documents are not attached. 37 C.F.R. § 1.98(d).

It is respectfully requested that the Examiner initial and return a copy of the enclosed PTO-1449, and indicate in the official file wrapper of this patent application that the documents have been considered.

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

KESSLER, GOLDSTEIN & FOX P.L.L.C.

Attorney for Applicants Registration No. 35,239

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Admitted only in Maryland Admitted only in Virginia Admitted only in Texas

April 19, 2002

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Art Unit: 2634

Commissioner for Patents Washington, D.C. 20231

Re:

U.S. Utility Patent Application

Appl. No. 09/525,185; Filed: March 14, 2000

Spread Spectrum Applications of Universal Frequency

Translation

Inventors:

Sorrells et al.

Our Ref:

1744.0450002/MQL/JTH

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Sir:

Technology Center 2600

Transmitted herewith for appropriate action are the following documents:

- 1. Information Disclosure Statement:
- 2. A list of the cited documents on Forms PTO-1449 (56 pages);
- 3. A copy of the seven-hundred and seventy-six (776) documents cited on Forms PTO-1449;
- A compact Disc labeled "Sterne1B" in PDF format; 4.
- 5. A compact Disc labeled "Sterne2B" in PDF format; and
- 6. Return postcard.

It is respectfully requested that the attached postcard be stamped with the date of filing of these documents, and that it be returned to our courier. In the event that extensions of time are necessary to prevent abandonment of this patent application, then such extensions of time are hereby petitioned.

Sterne, Kessler, Goldstein & Fox PLIC: 1100 New York Avenue, NW: Washington, DC 20005: 202.371.2600 f 202.371.2540: www.skqf.com

Commissioner for Patents April 19, 2002 Page 2

The U.S. Patent and Trademark Office is hereby authorized to charge any fee deficiency, or credit any overpayment, to our Deposit Account No. 19-0036.

Respectfully submitted,

 $II \cap V(I)$ 

ESSLER, GOLDSTEIN & FOX P.L.L.C.

Attorney for Applicants Registration No. 35,239

JTH/slw Enclosures

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